

2	1.	A USB system for data communication between a processor and		
3	IDE devices, comprising:			
4		a plurality of IDE devices;		
5		a plurality of USB-to-IDE bridges, wherein each IDE device is		
6	connected	connected to a respective USB-to-IDE bridge; and		
7		a USB controller, wherein the USB-to-IDE bridges are connected to		
8	the USB controller, whereby the processor can communicate with the IDE			
9	devices via the USB controller.			
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11	2.	The system of claim 1, wherein at least one of the IDE devices		
12	comprises a hard disk drive.			
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15	3.	The system of claim 1, further comprising one or more USB hubs,		
16	each USB hub connected between two or more USB-to-IDE bridges and a USB			
17	controller.			
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19	4.	The system of claim 1, wherein each IDE device can be utilized in		
20	hot pluggin	g.		
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22	5.	The system of claim 1, wherein one or more IDE devices can be		
23	disconnected from the system while the system is operating.			
24				
25	6.	The system of claim 1, wherein at least one additional IDE device		
26	coupled to a corresponding USB-to-IDE bridge can be connected to the USB			
27	controller while the system is operating.			
28				
29	7.	The system of claim 1, further comprising at least one USB hub		
30	connected between a number of the USB-to-IDE bridges and one of the USB			



controllers, whereby the processor can communicate with the IDE devices via the USB controller and the USB hub.					
8. The system of claim 7, wherein one or more IDE devices can be					
disconnected from the system while the system is operating.					
9. The system of claim 1, wherein at least one additional IDE device					
coupled to a corresponding USB-to-IDE bridge can be connected to the hub					
while the system is operating.					
10. A method for connecting multiple IDE devices to a processor for					
data communication, comprising the steps of:					
providing multiple USB-to-IDE bridges;					
connecting each IDE device to a respective one of the USB-to-IDE					
·					
bridges;					
providing a USB controller; and					
connecting the USB-to-IDE bridges to the USB controller, whereby the					
processor can communicate with the IDE devices via the USB controller.					
11. The method of claim 10, wherein at least one of the IDE devices					
comprises a disk drive					
12. The method of claim 10, further comprising the steps of hot					
plugging one or more IDE devices to the USB-to-IDE bridges.					
13 The method of claim 10 further comprising the steps of					

13. The method of claim 10, further comprising the steps of disconnecting one or more of the IDE devices from the system while the system is operating.



1	14. The method of claim 10, further comprising the steps of connecting			
2	at least one additional IDE device coupled to a corresponding USB-to-IDE			
3	bridge, to the USB controller while the system is operating.			
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5	15. The method of claim 10, further comprising the steps of:			
6	providing at least one USB hub;			
7	connecting each hub to a USB controller; and			
8	connecting two or more USB-to-IDE controllers to each hub, such that			
9	each hub is connected between a USB controller and two or more USB-to-IDE			
10	controllers.			
11				
12	16. The method of claim 15, further comprising the steps of			
13	disconnecting one or more of the IDE devices from the system while the system			
14	is operating.			
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16	The method of claim 15, further comprising the steps of connecting			
17	at least one additional IDE device coupled to a corresponding USB-to-IDE			
18	bridge, to one of the hubs while the system is operating.			
19				
20	18. A data storage system, comprising:			
21	a plurality of IDE storage devices;			
22	a plurality of USB-to-IDE bridges, wherein each IDE storage device			
23	is connected to a respective USB-to-IDE bridge; and			
24	a USB controller, wherein the USB-to-IDE bridges are connected to			
25	the USB controller, whereby the processor can communicate with the IDE			
26	storage devices via the USB controller.			
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28	19. The data storage system of claim 18, further comprising a carrier			

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for each IDE data storage device, such that each IDE disk drive and

corresponding USB-to-IDE bridge are stored in the respective carrier.

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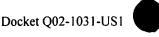
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	20.	The data storage system of claim 18, wherein one or more IDE			
storage devices can be disconnected from the system while the system is					
opera	ting.				

- The data storage system of claim 18, wherein at least one 21. additional IDE disk device coupled to a corresponding USB-to-IDE bridge can be connected to the USB controller while the system is operating.
 - The data storage system of claim 18, further comprising at least 22. one USB hub connected between a number of the USB-to-IDE bridges and one of the USB controllers, whereby the processor can communicate with the IDE devices via the USB controller and the USB hub.
 - 23. The data storage system of claim 18, further comprising one or more USB hubs, each USB hub connected between two or more USB-to-IDE bridges and a USB controller.
 - The data storage system of claim 23, wherein at least one or more 24. IDE storage devices can be disconnected from the system while the system is operating.
 - The data storage system of claim 23, wherein at least one 25. additional IDE storage device coupled to a corresponding USB-to-IDE bridge can be connected to one of the USB hubs while the system is operating.
 - The data storage system of claim 23, wherein at least one 26. additional IDE storage device coupled to a corresponding USB-to-IDE bridge and associated hub, can be connected to the USB controller while the system is operating.





27. The data storage system of claim 23, wherein at least one IDE storage device coupled to a corresponding USB-to-IDE bridge and associated hub, can be disconnected to the USB controller while the system is operating.

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